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10/017,747	12/07/2001	Jason L. Zander	MS111833.2	3819

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EXAMINER	
JUNG, DAVID YIUK	

ART UNIT	PAPER NUMBER
2134	4

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,747	ZANDER, JASON L.	
	Examiner	Art Unit	
	David Y Jung	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2002*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 40-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14, 40-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

CLAIMS PRESENTED

Claims 1-14, 40-52 are presented.

CLAIM REJECTIONS

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) " patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-14, 40-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noble et al. (US Patent 5,926,810, hereinafter also referred as Noble or as Noble et al.) and Oracle 7 Server Concepts Manual (by Brobowski et al, 1992, hereinafter also referred as Oracle)[1].

In regard to claim 1, Noble teaches **a method performed on a programmable digital computer for processing relational databases having data ...** (column 4, lines 38-62, i.e. RDBMS system).

The method of the claimed invention comprises

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[1]Both Noble et al. (the patent rights) and Oracle (its copyright) are assigned to Oracle Corporation. Both references use some common terminologies.

defining a schema of the database as a script (column 11, lines 25-28, i.e. "creates and names the single universal schema."

column 11, lines 34-39, i.e. runs scripts, universal schema.);

compiling the script into a representation of schema (column 11, lines 34-39, i.e. script, universal schema);

constructing an executable program for processing the databases (column 12, lines 34-36, i.e. application run from the appropriate schema);

installing the representation of the schema in the executable application program such that the schema is stored separately from the data ... of the relational databases processed by the application program (column 8, lines 46-61 i.e. "install ... by connecting to universal schema ..." and "multiple universal schemas coupled to different install groups or application product schemas." That multiple universal schemas are permitted shows that the schema is handled separately from the data (such as from data file) of the relational database processed by the application program.[2]).

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[2]Schemas are kept separately from the data. Because the system uses multiple universal schemas, each schema is handled separately from the data (such as from data file). This shows that more than one schema can work with the same data (such as from a data file) without being inseparably mingled with the data (such as from data file).

Also, Noble teaches that the variously different schema can be kept. See column 10, lines 9-30, especially "two or more universal schemas corresponding to respectively two or more related sets of application product schemas or product install groups." Note that various application schemas are kept separately from the universal schema. Indeed, some of the application schema can to be changed without changing the

These passages of Noble do not expressly teach that the "compiling" as in claim 1.

Oracle teaches such "compiling" of database software (14-17, first four paragraphs) for the motivation of "allowing the code to be executed quickly and shared (14-17, third paragraph)."

It would have been obvious to those of ordinary skill in the art, at the time of the claimed invention, to modify the teachings to combine the teachings of Oracle with the teachings of the system of Noble to include "compiling" for the motivation of "allowing the code to be executed quickly and shared (Oracle, 14-17, third paragraph)."

These passages of Noble do not expressly teach that the "data file" as in claim 1.

Oracle teaches that "data file" (4-7, second full paragraph) for the motivation of "storing all the database data in ... tablespace" (4-7, second full paragraph.).

It would have been obvious to one of ordinary skill in the art, at the time of the claimed invention, to modify the teachings of the art to combine the teachings of Oracle with the teachings of the system of Noble to include "data file" for the motivation of "storing all the database data in ... tablespace" (Oracle, 4-7, second full paragraph.).

Regarding claim 2, the references teach as noted in the previous paragraphs.

Regarding claim 2, Oracle teaches such "medium containing instructions and data for executing (1-15, first three full paragraphs, i.e. "Memory Structures and Processes"; and Figure 1-3 Memory Structures and Processes of ORACLE)" the

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universal schema, thereby minimizing the changes to the entire database system. See especially column 10, lines 21-30.

method of claim 1 on a programmable digital computer for the motivation of "managing a database (1-15, first sentence)."

Regarding claim 3, the references teach as noted in the previous paragraphs.

Regarding claim 3, Oracle teaches "schema includes definitions of tables, columns for the tables, and data types for the columns (5-2 to 5-3; i.e. "schema objects, table, index, column, datatype,)" for the motivation of collecting -- per user -- schema objects which are logical data storage structures (5-2, the first and the second paragraphs).

Regarding claim 4, the references teach as noted in the previous paragraphs.

Regarding claim 4, Oracle teaches "the schema further includes at least one index (5-2, first and second paragraphs, especially "schema is a collection of schema objects" and "some objects such as ... indexes ...")" for the motivation of "collecting -- per user -- schema objects which are logical data storage structures (5-2, the first and the second paragraphs)."

Regarding claims 5 (helper file, etc.), 6 (stanadalone, etc.), 7 (user computer, etc.) these claims recite details of script handlings that are well known for the motivation of effective representation of data.

In regard to claim 8, Noble teaches

A **method for processing relational databases with an application program** (column 4, lines 38-62, i.e. RDBMS system)."

The method of the claimed invention comprises

recording a desired schema for the databases as a human-readable script in a source format (column 11, lines 25-28, i.e. "creates and names the single universal schema);

... the script into a representation capable of being included in the code of the application program, such that the schema forms a part of the application program rather than a part of the databases (column 11, lines 34-39, i.e. script, universal schema; column 12, lines 34-38, i.e. application run from the appropriate schema.

Also see column 8, lines 46-61 i.e. "install ... by connecting to universal schema ..." and "multiple universal schemas coupled to different install groups or application product schemas." That multiple universal schemas are permitted shows that the schema is handled separately from the data (such as from data file) of the relational database processed by the application program.).

These passages of Noble do not expressly teach that the "compiling" as in claim 8.

Oracle teaches such "compiling" of database software (14-17, first four paragraphs) for the motivation of "allowing the code to be executed quickly and shared (14-17, third paragraph)."

It would have been obvious to those of ordinary skill in the art, at the time of the claimed invention, to modify the teachings to combine the teachings of Oracle with the teachings of the system of Noble to include "compiling" for the motivation of "allowing the code to be executed quickly and shared (Oracle, 14-17, third paragraph)."

Regarding claim 9, the references teach as noted in the previous paragraphs.

Regarding claim 9, Oracle teaches such "medium containing instructions and data for executing (1-15, first three full paragraphs, i.e. "Memory Structures and Processes"; and Figure 1-3 Memory Structures and Processes of ORACLE)" the method of claim 1 on a programmable digital computer for the motivation of "managing a database (1-15, first sentence)."

Regarding claims 10 (identifier, etc.), 11 (version number, etc.), these details are well known in the art for the motivation of keeping track of data.

Regarding claim 12, the references teach as noted in the previous paragraphs.

Regarding claim 12, Oracle teaches "schema includes definitions of tables and columns for the tables (5-2 to 5-3; i.e. "schema objects, table, index, column, datatype,)" for the motivation of collecting -- per user -- schema objects which are logical data storage structures (5-2, the first and the second paragraphs). Regarding claim 13, the references teach as noted in the previous paragraphs.

Regarding claim 13, Oracle teaches "the schema further includes at least one index (5-2, first and second paragraphs, especially "schema is a collection of schema objects" and "some objects such as ... indexes ...")" for the motivation of "collecting -- per user -- schema objects which are logical data storage structures (5-2, the first and the second paragraphs)."

Regarding claim 14, the references teach as noted in the previous paragraphs.

Regarding claim 14, Oracle teaches "the representation includes structural constructs representing the definitions of tables and columns for the tables (5-2 to 5-3;

i.e. "schema objects, table, index, column, datatype)" for the motivation of collecting -- per user -- schema objects which are logical data storage structures (5-2, the first and the second paragraphs).

Regarding claim 40 (stand alone script file, etc.) such details are well known in the art for the motivation of effective data representation.

In regard to claim 41, Noble teaches **a method for processing relational databases** (column 4, lines 38-62, i.e. RDBMS system) **having data ... organized according to a defined schema** (column 11, lines 25-39, universal schema). The method of Noble comprises

defining application program code for performing at least one function upon the databases (column 12, 34-36, i.e. application run from the appropriate schema);

including with the application code a scheme file separate from the data ... and representing the schema of the data ..., such that the function operates upon the data ... in accordance with the schema (column 8, lines 46-61 i.e. "install ... by connecting to universal schema ..." and "multiple universal schemas coupled to different install groups or application product schemas." That multiple universal schemas are permitted shows that the schema is handled separately from the data (such as from data file) of the relational database processed by the application program.).

These passages of Noble do not expressly teach that the "data file" as in claim 41.

Oracle teaches that "data file" (4-7, second full paragraph) for the motivation of "storing all the database data in ... tablespace" (4-7, second full paragraph).

It would have been obvious to those of ordinary skill in the art, at the time of the claimed invention, to modify the teachings to combine the teachings of Oracle with the teachings of the system of Noble to have "data file" for the motivation of "storing all the database data in ... tablespace" (Oracle, 4-7, second full paragraph).

These passages of Noble and Oracle do not teach "wherein the application code access a further program for executing the function, and wherein the application code passes a pointer to the schema file to the further code for locating particular data in the data files."

It was well known in the art to have teach "wherein the application code access a further program for executing the function, and wherein the application code passes a pointer to the schema file to the further code for locating particular data in the data files" for the motivation of conserving memory. For example, C language (in which Oracle itself was originally written) uses pointer passing for the motivation of conserving memory.

It would have been obvious to those of ordinary skill in the art, at the time of the claimed invention, to modify the teachings of Oracle and Noble to have such feature of the previous paragraph for the motivation noted in the previous paragraph.

Regarding claim 42, the references teach as noted in the previous paragraphs.

Regarding claim 42, Oracle teaches such "medium containing instructions and data for executing on a programmable digital computer (1-15, first three full paragraphs,

i.e. "Memory Structures and Processes"; and Figure 1-3 Memory Structures and Processes of ORACLE)" the method of claim 1 on a programmable digital computer for the motivation of "managing a database (1-15, first sentence)."

Regarding claims 43 (database, etc.), 44 (tables, etc.) 45 (index, etc.), 46 (integrated, etc.), these details are well known in the art for the motivation of effectuating a complex relational database system. For example, Oracle uses such features to install and run application programs (e.g., ERP, enterprise resource planners).

In regard to claim 47, Noble teaches **a system for processing a relational database** (column 4, lines 38-62, i.e. RDBMS system).

The system of the claimed invention comprises:

a data ... for containing data for the database according to a schema (column 11, lines 10-24, i.e. data in the ... data structure; column 11, lines 25-39, i.e. universal schema; column 11, i.e. view ... set of rows, >row-level= data partitioning);

a schema defined as a single stand-alone file that provides a schema definition for the database (column 11, lines 25-39, i.e. universal schema);

a ... responsive to the single stand-alone script file for producing a representation of the schema independent from the data ... (column 8, lines 46-61 i.e. "install ... by connecting to universal schema ..." and "multiple universal schemas coupled to different install groups or application product schemas." That multiple universal schemas are permitted shows that the schema is handled separately from the

data (such as from data file) of the relational database processed by the application program.).

These passages of Noble do not expressly teach that the "compiling" as in claim 47.

Oracle teaches such "compiler" of database software (14-17, first four paragraphs) for the motivation of "allowing the code to be executed quickly and shared (14-17, third paragraph)."

It would have been obvious to one of ordinary skill in the art, at the time of the claimed invention, to modify the teachings to combine the teachings of Oracle with the teachings of the system of Noble to have "compiler" for the motivation of "allowing the code to be executed quickly and shared (14-17, third paragraph)."

These passages of Noble do not expressly teach that the "data file" as in claim 47.

Oracle teaches that "data file" (4-7, second full paragraph) for the motivation of "storing all the database data in ... tablespace" (4-7, second full paragraph.).

It would have been obvious to those of ordinary skill in the art, at the time of the claimed invention, to modify the teachings to combine the teachings of Oracle with the teachings of the system of Noble to have "data file" for the motivation of "storing all the database data in ... tablespace" (Oracle, 4-7, second full paragraph).

Regarding claim 48, the references teach as noted in the previous paragraphs.

Regarding claim 48, Oracle teaches "the representation is a binary representation (A-7, the last paragraph, i.e. binary information handling such as exemplified by binary character handling)" for the motivation of permitting of "producing

reasonable results" during of handling information by "numerical values" (A-7, the last paragraph).

Regarding claim 49, the references teach as noted in the previous paragraphs.

Regarding claim 49, Oracle teaches "the schema definition includes specifications of tables and columns (5-2 to 5-3; i.e. schema objects, table, index, column, datatype)" for the motivation of collecting -- per user -- schema objects which are logical data storage structures (5-2, the first and the second paragraphs).

Regarding claim 50, the references teach as noted in the previous paragraphs.

Regarding claim 50, Oracle teaches "representation includes constructs embodying the specifications of table and columns (5-2 to 5-3; i.e. schema objects, table, index, column, datatype)" for the motivation of collecting -- per user -- schema objects which are logical data storage structures (5-2, the first and the second paragraphs).

In regard to claim 51, Noble teaches **a system for processing a relational database** (column 4, lines 38-62, i.e. RDBMS system).

The system of the claimed invention comprises:

a data ... containing relational data organized according to a schema (column 11, lines 10-24, i.e. data in the ... data structure; column 11, lines 25-39, i.e. universal schema; column 11, i.e. view ... set of rows, >row-level= data partitioning);

an application program separate from the data ... (column 8, lines 46-61 i.e. "install ... by connecting to universal schema ..." and "multiple universal schemas coupled to different install groups or application product schemas." That multiple

universal schemas are permitted shows that the schema is handled separately from the data (such as from data file) of the relational database processed by the application program.) **and including**

a representation of the schema of the data ... (column 8, lines 46-61 i.e. "install ... by connecting to universal schema ..." and "multiple universal schemas coupled to different install groups or application product schemas." Note that the application product schemas, which are themselves schemas, can be connected to universal schemas.),

code responsive to the representation for performing an operation on the data ... in accordance with the schema (column 12, lines 34-36, application products run from the appropriate schema).

These passages of Noble do not expressly teach that the "data file" as in claim 51.

Oracle teaches that "data file" (4-7, second full paragraph) for the motivation of "storing all the database data in ... tablespace" (4-7, second full paragraph.).

It would have been obvious to those of ordinary skill in the art, at the time of the claimed invention, to modify the teachings to combine the teachings of Oracle with the teachings of the system of Noble to have "data file" for the motivation of "storing all the database data in ... tablespace" (Oracle, 4-7, second full paragraph).

These passages of Noble and Oracle do not teach "a further program that operates upon the data file in accordance with the schema, the application program passing a pointer to the schema file to the further program for accessing data in the data file."

It was well known in the art to have teach "a further program that operates upon the data file in accordance with the schema, the application program passing a pointer to the schema file to the further program for accessing data in the data file" for the motivation of conserving memory. For example, C language (in which Oracle itself was originally written) uses pointer passing for the motivation of conserving memory.

It would have been obvious to those of ordinary skill in the art, at the time of the claimed invention, to modify the teachings of Oracle and Noble to have such feature of the previous paragraph for the motivation noted in the previous paragraph.

Regarding claim 52, the references teach as noted in the previous paragraphs.

Regarding claim 52, Oracle teaches "a database engine coupled to the application program for executing the operation upon the data file in response to receiving the representation of the schema from the application program (1-2, first paragraph, i.e. database management system -- the engine is often called the "kernel" and is part of the management system; 5-2, i.e. the management system executes operations in response to receiving information from schema of 5-2)" for the motivation of "managing large amounts of data" (1-2, first paragraph).

Conclusion

The art made of record and not relied upon is considered pertinent to applicant's disclosure. They were cited in the previous Actions of the parent application of this application.

Points of Contact

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 746-7239, (for formal communications intended for entry)

Or:

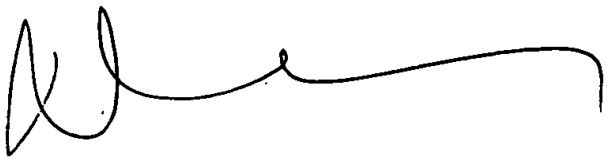
(703) 746-5606 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Jung whose telephone number is (703) 308-5262 or Greg Morse whose telephone number is (703) 308-4789.

David Jung

Patent Examiner



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